

REMARKS

This responds to the Final Office Action mailed on March 18, 2009.

No claims are amended or cancelled. Claims 1-5 and 7-20 remain pending in this application.

Request for Information

The Office Action required information under 37 CFR 1.105.

The Office Action asked:

- 1) What applicant considers a clot?
- 2) How does the formation of a layer of blood cells differentiate between a clot?

Applicant submits the following:

1) A clot is a semisolid mass of coagulated blood. For a clot to intrinsically form, the circulating blood must contact a negatively charged foreign body surface which starts the clotting cascade. Thus, a clot is the result of a complex set of biochemical reactions/changes in the blood that results in coagulation (solidification) of the blood.

2) A layer of blood cells does not coagulate into a larger mass. Thus, a layer of blood cells, as used consistently throughout the specification, is simply that - a layer that assembles on the surface of a device without any biochemical reactions/changes

§ 112 Rejection of the Claims

Claims 1, 5, 7, 9-10 and 11-18 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

As discussed above under the Request for Information, Applicant believes the terms “clot” and “layer of blood cells” are differentiated enough in the claims and as described in the specification so as to not be indefinite. Reconsideration and allowance is respectfully requested.

§ 103 Rejection of the Claims

Claims 1, 5, 7 and 9-18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Helland (U.S. Patent No. 4,033,357, herein after Helland 357) in view of Helland (U.S. Patent No. 5,318,572, herein after Helland 572).

Claims 1, 5, 7, 9, and 10

Applicant traverses the obviousness rejection of claim 1. Applicant believes claim 1 is not obvious in view of the cited references since, even if combined, the combination does not include or suggest each limitation recited in the claim. For instance, Applicant cannot find in the cited combination: wherein the outer surface of the lead body is adapted such that a layer of blood cells is formed on the outer surface when exposed to a bloodstream, and wherein the outer surface of the ring electrode includes a textured coating including titanium microspheres, as recited in claim 1.

In contrast, Helland 357 discusses a lead with a ring electrode formed of non-thrombogenic material and a lead body formed of non-thrombogenic material. (Abstract). Helland 572 discusses a lead with the electrode tip having spheroidal particles 70 for chronic ingrowth of tissue. (Col. 6, lines 5-8). Neither reference discusses a lead body adapted such that a layer of blood cells is formed on the outer surface when exposed to a bloodstream, and neither reference discusses a ring electrode including a textured coating including titanium microspheres.

Thus even if combined, the resulting combination would, at most, have a non-thrombogenic ring electrode and non-thrombogenic lead body with a electrode tip with microspheres. However, the combination would not include an outer surface of the lead body is adapted such that a layer of blood cells is formed on the outer surface when exposed to a bloodstream, and wherein the outer surface of the ring electrode includes a textured coating including titanium microspheres, as recited in claim 1.

Moreover, Helland 357 teaches away from a ring electrode having any type of textured coating. Helland discusses a non-fibrosing implantable lead where the ring electrode is made from a non-thrombogenic material so that “the buildup of a layer of non-excitable tissue around the electrode is minimized or substantially eliminated by the use of non-thrombogenic materials

for both the electrode contacts 14 and 15 and the encapsulating material 10. (Col. 4, lines 61-66).

Also, there is nothing in the Helland 572 reference to suggest that a ring electrode would be texturized. The Helland 572 reference discusses that the texturizing treatment on the electrode distal tip 60 is to “create a plurality of pore sites and interstitial porosity for chronic ingrowth of tissue.” (Col. 6, lines 6-8). Neither the Office Action nor Helland 572 give any indication of a need for such chronic ingrowth of tissue on a ring electrode. Accordingly, there is no reason or suggestion for such a modification of the Helland reference.

Claims 5, 7, 9, and 10 include each limitation of their parent claim and are also not obvious in view of the cited references. Reconsideration and allowance is respectfully requested.

Claims 11-16

Applicant believes claim 11 is not obvious in view of the cited references since the combination does not include or suggest each limitation recited in the claim. Moreover there is no motivation to combine the references as suggested by the Office Action. For instance, Applicant cannot find in the combination: wherein the lead body has a textured outer surface adapted to form a layer of blood cells on the outer surface when exposed to a bloodstream so as to passively prevent formation of clots on the outer surface, and wherein the ring electrode includes an outer textured surface including titanium microspheres, as recited in claim 11.

As discussed above, the references, both singly, and in combination do not include such subject matter.

Claims 12-16 include each limitation of their parent claim and are also not obvious in view of the cited references. Reconsideration and allowance is respectfully requested.

Claims 17 and 18

Applicant believes claim 17 is not obvious in view of the cited references since the combination does not include or suggest each limitation recited in the claim. Moreover there is no motivation to combine the reference as suggested by the Office Action. For instance, Applicant cannot find in the combination: a titanium microsphere outer surface coating on at least a portion of the ring electrode, and wherein means for passively preventing clots on the lead

body includes forming the lead body such that a layer of blood cells is formed on an outer surface of the lead body when exposed to a bloodstream, as recited in claim 17.

As discussed above, the references, both singly, and in combination do not include such subject matter.

Claim 18 includes each limitation of its parent claim and is therefore also not obvious in view of the cited references. Reconsideration and allowance is respectfully requested.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's representative at (612) 359-3267 to facilitate prosecution of this application.

If necessary, please charge any additional fees or deficiencies, or credit any overpayments to Deposit Account No. 19-0743.

Respectfully submitted,

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Date

6/18/09

By



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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 18 day of June, 2009.

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